

## PROGRAM - SETA 2012

All technical presentations will be at Davis Centre Room 1302.

### **Sunday June 3**

18:30 - 20:30 Registration & Reception (Davis Centre Room 1301)

### **Monday June 4**

7:30 - 8:30 Light Breakfast (Davis Centre Room 1301)

8:00 - 8:45 Registration (Davis Centre Room 1301)

8:45 - 9:00 Welcoming remarks (Davis Centre Room 1302)

### **Perfect sequences**

9:10 - 9:40 Yang Yang, Guang Gong and Xiaohu Tang, *Odd Perfect Sequences and Sets of Spreading Sequences with Zero or Low Odd Periodic Correlation Zone*

9:40 - 10:10 Ferruh Özbudak, Oğuz Yayla and C. Cengiz Yıldırım, *Nonexistence of Certain Almost  $p$ -ary Perfect Sequences*

### **Finite Fields**

10:10 - 10:40 Yin Tan, Longjiang Qu, Chik How Tan and Chao Li, *New Families of Differentially 4-Uniform Permutations Over  $F_{2^{2k}}$*

10:40 - 11:10 Coffee break (Davis Centre Room 1301)

11:10 - 11:40 Jean-Pierre Flori and Sihem Mesnager, *Dickson Polynomials, Hyperelliptic Curves and Hyper-bent Functions*

### **Invited Talk**

11:40 - 12:30 Jonathan Lutz, Charles J. Colbourn and Violet R. Syrotiuk, *Variable Weight Schedules for Adaptive Scheduled Access in MANETs*

12:30 - 14:05 Lunch (Davis Centre Room 1301)

### **Boolean Functions**

14:15 - 14:45 Andrew Klapper, *Arithmetic Walsh Transform of Quadratic Boolean Functions*

14:45 - 15:15 Sumanta Sarkar, *Characterizing Negabent Boolean Functions over Finite Fields*

15:15 - 15:45 Coffee break (Davis Centre Room 1301)

15:45 - 16:15 Cagdas Calik and Ali Doganaksoy, *Computing the Weight of a Boolean Function from its Algebraic Normal Form*

16:15 - 16:45 Gottlieb Pirsic and Arne Winterhof, *Boolean Functions Derived from Pseudorandom Binary Sequences*

18:00 - 20:30 Dinner (University Club)

## **Tuesday June 5**

7:30 - 8:30 Light Breakfast (Davis Centre Room 1301)

8:00 - 8:45 Registration (Davis Centre Room 1301)

### **Golomb 80<sup>th</sup> Birthday Session (I)**

9:10 - 9:40 Solomon W. Golomb, *Infinite Sequences with Finite Cross-Correlation II*

9:40 - 10:10 Thomas J. Dorsey and Alfred W. Hales, *Irreducible Coefficient Relations*

10:10 - 10:40 Jonathan Jedwab and Jane Wodlinger, *Wavelength Isolation Sequence Pairs*

10:40 - 11:10 Coffee break (Davis Centre Room 1301)

11:10 - 11:40 Ana Sălăgean, David Gardner and Raphael Phan, *Index Tables of Finite Fields and Modular Golomb Rulers*

### **Invited Talk**

11:40 - 12:30 Thomas Johansson, *Attacks on FCSR-based Stream Ciphers*

12:30 - 14:05 Lunch (University Club)

### **Golomb 80<sup>th</sup> Birthday Session (II)**

14:15 - 14:45 Zhengchun Zhou, Xiaohu Tang, Yang Yang and Udaya Parampalli, *On the Aperiodic Hamming Correlation of Frequency-Hopping Sequences from Norm Functions*

14:45 - 15:15 Santiago Barrera Acevedo and Tom Eric Hall, *Perfect Sequences of Unbounded Lengths over the Basic Quaternions*

15:15 - 15:45 Coffee break (Davis Centre Room 1301)

15:45 - 16:45 Tribute to Dr. Golomb and his research

### **Program of Banquet for Celebrating Dr. Golomb's 80<sup>th</sup> Birthday (University Club)**

17:30 - 18:45 Reception & Events (A birthday cake will be served at 18:25.)

1. Sigma Xi Executive Director Dr. Jerome Baker will present the William Proctor Prize to Dr. Golomb.
2. Congratulations from Professor Manoj Sachdev, the Chair of the Department of Electrical and Computer Engineering at University of Waterloo, and Professor Pearl Sullivan, the Dean of Engineering Faculty, University of Waterloo.
3. Overview of a series of historic photos of Dr. Golomb's achievements (The photos are collected by the University of Southern California (USC)).
4. Some friends or former students of Dr. Golomb presents a short speech for their congratulations to Dr. Golomb.

18:45 - 19:05 Watch the Transit of Venus

19:05 - 21:00 Dinner

### **Wednesday, June 6**

7:30 - 8:30 Light Breakfast (Davis Centre Room 1301)

### **Linear Complexity**

9:10 - 9:40 Michael Vielhaber and Mónica del Pilar Canales Chacón, *The Linear Complexity Deviation of Multisequences: Formulae for Finite Lengths and Asymptotic Distributions*

9:40 - 10:10 Zhixiong Chen and Domingo Gómez-Pérez, *Linear Complexity of Binary Sequences Derived from Polynomial Quotients*

10:10 - 10:40 Sartaj Ul Hasan, Daniel Panario and Qiang Wang, *Word-Oriented Transformation Shift Registers and Their Linear Complexity*

10:40 - 11:10 Coffee break (Davis Centre Room 1301)

### **Invited Talk**

11:10 - 12:00 Vahid Tarokh, Harvard University, *Spectral Distribution of Pseudo-random Matrices*

12:00 - 12:10 Box Lunch Pick Up (Davis Centre Room 1301)

## **Niagara Falls Trip Schedule**

12:10 - 12:30 Bus boarding in front of the Davis Centre

14:30 - 17:00 Visit Niagara Falls

17:00 - 17:10 Bus boarding at parking lot

17:30 - 19:20 Visit Niagara-on-the-Lake (Please have your dinner on your own there.)

19:20 - 19:30 Bus boarding at parking lot

## **Thursday, June 7**

7:30 - 8:30 Light Breakfast (Davis Centre Room 1301)

### **Frequency Hopping**

9:10 - 9:40 Jin-Ho Chung and Kyeongcheol Yang, *Low-Hit-Zone Frequency-Hopping Sequence Sets with New Parameters*

9:40 - 10:10 Oscar Moreno and Andrew Tirkel, *New Optimal Low Correlation Sequences for Wireless Communications*

### **Correlation of Sequences**

10:10 - 10:40 Evgeny Krengel, *Autocorrelation Properties of Some Pulse Compression Codes Derived from P3 and P4 Codes*

10:40 - 11:10 Coffee break (Davis Centre Room 1301)

11:10 - 11:40 Ming Su, *On the  $d$ -ary Generalized Legendre-Sidelnikov Sequence*

### **Invited Talk**

11:40 - 12:30 Qing Xiang, *Cyclotomy, Gauss Sums, Difference Sets and Strongly Regular Cayley Graphs*

12:30 - 14:05 Lunch (University Club)

### **Bounds on Sequences**

14:15 - 14:45 Xiao Bian and Nam Yul Yu, *Partial Fourier Codebooks Associated with Multiplied Golay Complementary Sequences for Compressed Sensing*

14:45 - 15:15 Yutaka Jitsumatsu, Tohru Kohda and Kazuyuki Aihara, *Welch Bound for Bandlimited and Timelimited Signals*

15:15 - 15:45 Coffee break (Davis Centre Room 1301)

### **Cryptography**

15:45 - 16:15 Tao Shi, Vladimir Anashin and Dongdai Lin, *Linear Weaknesses in T-functions*

16:15 - 16:45 Thorsten Schilling and Håvard Raddum, *Solving Compressed Right Hand Side Equation Systems with Linear Absorption*

18:00 - 20:30 Award Dinner (University Club)

### **Friday, June 8**

7:30 - 8:30 Light Breakfast (Davis Centre Room 1301)

### **Aperiodic Correlation**

9:10 - 9:40 Kai-Uwe Schmidt, *On Random Binary Sequences*

9:40 - 10:10 Tomas Boothby, *The Density of Ternary Barker Sequences*

### **Walsh Transform**

10:10 - 10:40 Guang Gong, Tor Helleseeth, Honggang Hu and Chunlei Li, *New Three-Valued Walsh Transforms from Decimations of Helleseeth-Gong Sequences*

10:40 - 11:10 Coffee break (Davis Centre Room 1301)

### **Invited Talk**

11:10 - 12:00 R. A. Bailey, *Circular Designs Balanced for Neighbours at Distances One and Two*